

District 08 Mobility Performance Report

2017 Fourth Quarter

DEPARTMENT OF TRANSPORTATION

January 12, 2017
D8 TMS SUPPORT

District 08 Mobility Performance Report

2017 Fourth Quarter

EXECUTIVE SUMMARY

Overview

Caltrans District 8 contains two counties located in Southern California: the San Bernardino and Riverside counties. Both are part of the Inland Empire, with Riverside County having a population of almost 2.3 million residents and San Bernardino County with 2.1 million residents. Although these are urban counties, they do contain a large amount of sparsely populated National Forest and National Recreation Area land.

The Mobility Performance quarterly analysis compares information with over a year ago and over last quarter in the following performance measures:

- Vehicle Miles of Travel (VMT)
- Vehicle Hours of Delay (VHD), Bottleneck Locations
- Lost Lane Miles (equivalent lost productivity)
- Detector Health

This information is based on data collected every day of the quarter, twenty-four hours a day, by automated vehicle detector stations deployed on urban-area freeways where congestion is regularly experienced. The MPR presents congestion information at two speed thresholds: delay from vehicles traveling below 35 miles per hour (mph), and delay from vehicles traveling below 60 mph. The delay at the 35 mph threshold represents severe congestion, while delay at 60 mph represents all congestion, both light and heavy. These thresholds are set by Caltrans and are based upon engineering experience and District input.

FINDINGS

In the fourth quarter of 2017, total delay equaled 2.8 million Vehicle Hours of Delay (VHD) at the 35 mph speed threshold, and 7.8 million VHD at the 60 mph threshold. The average weekday delay experienced in this quarter was approximately 39 thousand VHD at 35 mph, and 106 thousand VHD at 60 mph. The Vehicle Miles of Travel (VMT) equaled 7.5 billion miles for this quarter. The total delay at 35 mph is 1,522,050 for Riverside County and 1,306,648 for San Bernardino County. The total delay at 60 mph is 3,885,196 for Riverside County and 3,914,473 for San Bernardino County.

PROJECT STATUS

The Following District 8 projects are currently being constructed or are scheduled for construction for 2017. These current and future (planned) projects will relieve congestion in District 8:

RIVERSIDE COUNTY

RIV 15; INSTALL AND UPGRADE TMS ELEMENTS; EA 0G770

Install new Fiber Optic infrastructure on Rte 15 from PM 0.00/41.80 and upgrade newly installed wireless vehicle detection stations. Connect all the existing TMS elements to the newly installed Fiber Optic infrastructure.

Approve Construction Contract Date- 8/15/2017

RIV 215; INSTALL AND UPGRADE TMS ELEMENTS; EA 0G780

Install new Fiber Optic infrastructure on Rte 215 from PM 8.40/38.80 and upgrade newly installed wireless vehicle detection stations. Connect all the existing TMS elements to the newly installed Fiber Optic infrastructure.

Approve Construction Contract Date- 3/30/2016

RIV 91; CIP; EA 0F540

Construct 1 MF lane & 2 Toll Express lane each direction on RTE 91 from PM 0.00/11.55.
Approve Construction Contract Date- 5/09/2013

RIV 15; EA 1E300

Install Ramp Metering System at both NB & SB Entrance Ramps at Temescal Canyon RD to Weirick RD on RTE 15 from PM 33.10/35.80.

Approve Construction Contract Date- 6/15/2016

RIV 60; EA 1C640

Replace Wireless Communication System with Fiber Optic Infrastructure & connect it to the existing components on Rte 60 from PM 0.00/12.20.

Approve Construction Contract Date- 5/22/2017

SAN BERNARDINO COUNTY**SBD 10****SBD 10; REPLACE RANDOM SLABS ON MAINLINE & CONNECTORS; EA 0Q760**

Replace random slabs on Mainline & Connectors. Also upgrade all the detection TMS elements on Rte 10 from PM 0.00/30.90

Approve Construction Contract Date- 01/15/15

SBD 15; RECONSTRUCT EXISTING “D” STREET & STODDARD WELLS RD IC ; EA 3555V

Reconstruct existing “D”, “E” ST, & Stoddard Wells RD IC, Widen Victorville separation overhead. PM 42.50/ 46.00

Approve Construction Contract Date- 11/05/15

SBD 210; INSTALL FIBER OPTIC COMMUNICATION (FOC), CLOSED CIRCUIT TELEVISION CAMERAS (CCTV) AND CHANGEABLE MESSAGE SIGN (CMS); EA 0E551

Install Fiber Optic Communication (FOC), Closed Circuit Television (CCTV) and Changeable Message Sign (CMS) PM 21.80/ 27.30

Approve Construction Contract Date- 01/11/17

Bottleneck 2017 Q4 AM

Rank	County	Freeway	CA Postmile	Approximate Location	Average Extent (miles)	Total Delay (hours)	Total Duration (hours)	Period
1	Riverside	SR91-W	R.995	GREEN RIVER	1.50	61838	212	AM
2	Riverside	SR71-S	2.5	S-O PRADO DAM RD	3.18	37730	159	AM
3	Riverside	I215-N	40.929	MARTIN LUTHER KING	1.72	32631	206	AM
4	Riverside	I215-S	44.908	Center St	3.51	30400	109	AM
5	Riverside	I15-N	45.93	.25 N-O 6th ST.	2.11	21770	96	AM
6	Riverside	SR91-W	R3.054	SERFAS CLUB RD	2.25	19026	35	AM
7	San Bernardino	I15-S	.969	JURUPA	1.57	17587	95	AM
8	Riverside	I15-N	52.27	PHILADELPHIA UC	0.85	17071	149	AM
9	Riverside	SR91-W	10.724	PIERCE	1.27	10410	91	AM

Bottleneck 2017 Q4 PM

Rank	County	Freeway	CA Postmile	Approximate Location	Average Extent (miles)	Total Delay (hours)	Total Duration (hours)	Period
1	San Bernardino	I15-N	3.2	4TH ST NB ONR	2.63	94622	246	PM
2	San Bernardino	I15-S	.969	JURUPA	2.14	55490	178	PM
3	Riverside	I15-N	45.93	.25 N-O 6th ST.	2.35	42584	162	PM
4	San Bernardino	I10-E	30.7	ORANGE ST	2.31	40131	122	PM
5	Riverside	I215-S	40.76	MLK SB ON	2.37	39604	184	PM
6	San Bernardino	I10-E	13.041	Cherry Ave(T)	2.85	38151	123	PM
7	Riverside	SR91-W	10.724	PIERCE	1.76	36911	215	PM
8	Riverside	I215-S	R32.5	OLEANDER AVE	3.80	33281	147	PM
9	San Bernardino	I10-E	13.8	FONTANA REST	0.74	26194	215	PM
10	San Bernardino	I210-E	8.7	.75 E-O MILLIKEN	3.42	24698	72	PM

Quarterly Mobility Statistics

Measure	Graph	Percentage Change									
Vehicle Miles of Travel (VMT)	<p>Miles (Billions)</p> <table><tr><th>Quarter</th><th>VMT (Billions)</th></tr><tr><td>2016 Q4</td><td>7.2</td></tr><tr><td>2017 Q3</td><td>6.9</td></tr><tr><td>2017 Q4</td><td>7.5</td></tr></table>	Quarter	VMT (Billions)	2016 Q4	7.2	2017 Q3	6.9	2017 Q4	7.5	Over one year ago	Over last quarter
		Quarter	VMT (Billions)								
2016 Q4	7.2										
2017 Q3	6.9										
2017 Q4	7.5										
		3.9% ↓	7.8% ↓								
Total Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Millions)</p> <table><tr><th>Quarter</th><th>VHD (Millions)</th></tr><tr><td>2016 Q4</td><td>2</td></tr><tr><td>2017 Q3</td><td>2.2</td></tr><tr><td>2017 Q4</td><td>2.8</td></tr></table>	Quarter	VHD (Millions)	2016 Q4	2	2017 Q3	2.2	2017 Q4	2.8	Over one year ago	Over last quarter
		Quarter	VHD (Millions)								
2016 Q4	2										
2017 Q3	2.2										
2017 Q4	2.8										
		42.7% ↑	29.8% ↑								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 35 mph	<p>Hours (Thousands)</p> <table><tr><th>Quarter</th><th>VHD (Thousands)</th></tr><tr><td>2016 Q4</td><td>27</td></tr><tr><td>2017 Q3</td><td>30</td></tr><tr><td>2017 Q4</td><td>39</td></tr></table>	Quarter	VHD (Thousands)	2016 Q4	27	2017 Q3	30	2017 Q4	39	Over one year ago	Over last quarter
		Quarter	VHD (Thousands)								
2016 Q4	27										
2017 Q3	30										
2017 Q4	39										
		42.9% ↑	29.8% ↑								
Total Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Millions)</p> <table><tr><th>Quarter</th><th>VHD (Millions)</th></tr><tr><td>2016 Q4</td><td>6.3</td></tr><tr><td>2017 Q3</td><td>6.3</td></tr><tr><td>2017 Q4</td><td>7.8</td></tr></table>	Quarter	VHD (Millions)	2016 Q4	6.3	2017 Q3	6.3	2017 Q4	7.8	Over one year ago	Over last quarter
		Quarter	VHD (Millions)								
2016 Q4	6.3										
2017 Q3	6.3										
2017 Q4	7.8										
		23.8% ↑	24.2% ↑								
Average Non-Holiday Weekday Vehicle Hours of Delay (VHD) at 60 mph	<p>Hours (Thousands)</p> <table><tr><th>Quarter</th><th>VHD (Thousands)</th></tr><tr><td>2016 Q4</td><td>86</td></tr><tr><td>2017 Q3</td><td>86</td></tr><tr><td>2017 Q4</td><td>106</td></tr></table>	Quarter	VHD (Thousands)	2016 Q4	86	2017 Q3	86	2017 Q4	106	Over one year ago	Over last quarter
		Quarter	VHD (Thousands)								
2016 Q4	86										
2017 Q3	86										
2017 Q4	106										
		23.7% ↑	22.5% ↑								

Measure	Graph	Percentage Change	
Average Vehicle Hours of Delay by Day of Week at 60 mph		Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		—	—
		—	—
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Weekdays		Largest Magnitude Increase over one year ago	Largest Magnitude Increase over last quarter
		Tuesday 34.2%	Thursday 39%
		—	—
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Weekday Decrease over one year ago	Largest Magnitude Weekday Decrease over last quarter
		—	10 PM -48%
		—	—
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays		Largest Magnitude Weekday Increase over one year ago	Largest Magnitude Weekday Increase over last quarter
		5 PM 32.6%	5 PM 41.8%
		—	—
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Saturdays		Largest Magnitude Saturday Decrease over one year ago	Largest Magnitude Saturday Decrease over last quarter
		8 PM -34.7%	12 PM -15.8%
		—	—
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays		Largest Magnitude Saturday Increase over one year ago	Largest Magnitude Saturday Increase over last quarter
		1 PM 115.6%	5 PM 136.1%
		—	—
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays		Largest Magnitude Sun./Holiday Decrease over one year ago	Largest Magnitude Sun./Holiday Decrease over last quarter
		6 PM -4.9%	10 AM -37.2%
		—	—
Average Vehicle Hours of Delay by Hour of Day at 35 mph, Sundays/Holidays		Largest Magnitude Sun./Holiday Increase over one year ago	Largest Magnitude Sun./Holiday Increase over last quarter
		2 PM 27.3%	5 PM 165.9%
		—	—

Measure	Graph	Percentage Change	
Total Vehicle Hours of Delay (VHD) by County at 35 mph	<p>Hours (Millions)</p> <p>2016 Q4 2017 Q3 2017 Q4</p> <p>Riverside San Bernardino</p>	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		—	—
		Riverside 61.3% ↑	Riverside 29.3% ↑
Average Non-Holiday Weekday Equivalent Lost Lane Mile Hours at 35 mph	<p>Miles</p> <p>2016 Q4 2017 Q3 2017 Q4</p> <p>AM Peak Off-Peak Day PM Peak Off-Peak Night (6 AM to 10 AM) (10 AM to 3 PM) (3 PM to 7 PM) (7 PM to 6 AM)</p>	Largest Magnitude Decrease over one year ago	Largest Magnitude Decrease over last quarter
		Off-Peak Night -5% ↓	—
		PM Peak 25.2% ↑	PM Peak 40.9% ↑
Average Number of Good and Bad Detectors	<p>Number of Detectors</p> <p>Average of Good Average of Bad</p> <p>2016 Q4 2017 Q3 2017 Q4</p>	Change in Good over one year ago	Change in Good over last quarter
		15% ↑	10% ↑
		Change in Bad over one year ago -5% ↓	Change in Bad over last quarter 22% ↓

Congestion by Route											
Route	County	Vehicle Hours of Delay at 35 mph			Difference 2017 Q4-2016 Q4		Difference 2017 Q4-2017 Q3		Rank		
		2016 Q4	2017 Q3	2017 Q4	Absolute	Percentage	Absolute	Percentage	2016 Q4	2017 Q3	2017 Q4
SR91	Riverside	294210.7	444018.5	549386.6	255175.9	87%	105,368	24%	2	1	1
I15	Riverside	213823.8	276040.8	462625.6	248801.8	116%	186,585	68%	5	4	2
I10	San Bernardino	291819.5	216865.8	396181.8	104362.3	36%	179,316	83%	3	5	3
I15	San Bernardino	326717	391579.9	381892.2	55175.2	17%	(9,688)	-2%	1	2	4
I215	Riverside	272371.6	312981.6	339758.9	67387.3	25%	26,777	9%	4	3	5
I210	San Bernardino	174932.4	158556.4	235178.4	60246	34%	76,622	48%	6	6	6
SR60	San Bernardino	133065.1	117265.6	147314.2	14249.1	11%	30,049	26%	7	7	7
SR60	Riverside	104978.9	100767	96890.3	-8088.6	-8%	(3,877)	-4%	8	8	8
I215	San Bernardino	73762.4	49212.3	94447.7	20685.3	28%	45,235	92%	9	10	9
SR71	San Bernardino	38026	68621.7	51574.1	13548.1	36%	(17,048)	-25%	10	9	10
I10	Riverside	25937.2	14084.4	39598.8	13661.6	53%	25,514	181%	12	12	11
SR71	Riverside	32375.8	29478.2	33789.7	1413.9	4%	4,312	15%	11	11	12
SR259	San Bernardino	13.5	0	59.3	45.8	339%	59		13		13
TOTALS		1,982,034	2,179,472	2,828,698	846,664	42.7%	649,225	29.8%			